# MILLENNIUM DEVELOPMENT GOALS AND THE IMPACT OF REGISTRATION ON THE PERFORMANCE OF CONSTRUCTION SUBCONTRACTORS IN NIGERIA

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**Abstract**

*Arising from the quest to achieve sustainable built environment and the millennium development goals in developing countries, the study examined the influence of registration on the performance of subcontractors in the Nigerian construction industry. The principal objective was to find if any relationship exists between registration and the performance of subcontractors in the Nigerian construction industry. By focusing on three commercial nerve centers of the country (Lagos, Abuja and Port Harcourt), 90 main contractors were randomly selected from the study population of 880 in the register of the Federal Registration Board of Nigeria, 96 subcontractors, 90 clients and 92 consultants were also randomly selected from the population. Descriptive and inferential (Chi-square probabilities) statistical techniques were used for the analysis. The results showed that the registration had no significant effect on the overall performance of subcontractors on construction sites in Nigeria ($x = 2.07$, $P < 0.05$). The results also indicated that majority of the main contractors (49.4%) give notification to these specialty contractors when they are needed on site. On the other hand, a paltry number of the contractors (33.3%) affirmed that it is left for the subcontractors to monitor the progress of their bidding and final selection on sites. The study concluded that for a meaningful monitoring, sincere attention should be shifted towards registration of subcontractors with the relevant professional bodies and that competitive bidding should be encouraged among the subcontractors.*

**Keywords**: impact, registration, performance, subcontractor, construction, Nigeria.



## INTRODUCTION

The Millennium Development Goals (MDGs) are a series of eight development goals agreed by the international community to be achieved by the year 2015. This initiative seeks to address various global goals like industrialization, hunger, gender, health, education and environmental sustainability, among other issues. Among regions and groups of countries, the long-standing international attention given to the difficulties facing Africa resulted in a sequence of goals and targets for that continent and for sub-Saharan Africa in particular(Kinniburgh, 2005). Few of these targets were met, particularly in the 1980s/ 1990s, when many developing countries suffered setbacks. Nevertheless, some of the more narrowly-focused goals produced results and one notable success was the partial eradication of smallpox. A comprehensive global effort resulted in this goal being achieved by the end of the 1970s/1980s in some parts of the globe and in recent times, in the sub-Saharan Africa.

However, the task of the Millennium Development Goals have become more challenging because of the increasing unfavorable environment that has prevailed since the commencement of this decade; most especially the global economic recession and the food security crisis which are of uncertain magnitude and duration.

Expectedly, all the developmental strategies, policies, and actions of the MDGs have been under heavy criticism. Some observers believed that, given their origins, the MDGs reflect donor rather than the developing country preferences. It is also argued that the MDGs were developed in a top-down fashion and were a manifestation of "one size fits all" in development policy, not necessarily responding to the needs and wishes of the individuals they are intended to assist. Many developing countries, as well as outside observers, also considered that setting the same goals and targets for countries at different stages of development was appropriate and even unjust.

In the area of content also, a broader reservation is that the MDGs are only limited subset of the outcomes of the global conferences and that the development agenda is far broader. Similarly, from a country's perspective, it can be argued that the MDGs do not give adequate attention to the middle income developing countries or countries in, or emerging from, conflict.

Moreover, a number of global development challenges, such as the impact of globalization, inequality across countries and the participation of developing countries in global economic governance as well as the built environment, are also not addressed by the MDGs. There is therefore the need to address some of these issues, especially the built environment, in relation to the contribution of construction subcontractors in Nigeria.

Several studies (Wahab 1986; Chua 1996; Adeyemi 2004 and Fagbenle 2006) have identified the construction industry as one of the main engines of growth in any economy. It provides the infrastructure required for other sectors of the economy to flourish, provides housing as the basic human need and it is instrumental in providing national communications network (Palalani, 2000). The construction industry also provides significant employment opportunities at non-skilled and skilled levels. The construction industry of many countries rely heavily on subcontracting, hence, the quality of subcontractors is important as it has a direct bearing on the performance of the main contractors on the projects (Loh and Ofori, 2000). For example, Greenwood (2001) observed that recent publications show a shift in the attitude of main contractors to labour subcontract procurement in the United Kingdom. Loh and Ofori also noted that in Singapore, 60-70% of the work is subcontracted. Subcontracting has also been the feature of the industry in many other countries, including the United States (Gray and Flanagan, 1989) and Japan (Beardsworth et el. 1988). Hinze and Tracey (1994) who worked on some projects in Europe noted that on many of these projects, particularly building projects, it is not uncommon for 80-90% of the work to be performed by subcontractors. The International Labour Organization (ILO) in its 2005 publication reported that even in Germany where the construction labour market is still governed by a dense network of domestic regulations, the number of German companies employing more than 500 people has shrunk from about 130, four decades ago to only 50 in 2005. It further gave the instance of Germany, France and Finland where only 25 percent of construction workers are employed in firms with more than 100 employees. Fagbenle (2006) also posited that unstable demand and seasonality cause construction firms to split into autonomous units and rely on labour subcontractors to undertake some of the work packages. Similarly, Beardsworth et al. (1988) reported that construction firms prefer to be flexible rather than maintaining a large organization to undertake the entire construction process. Ogunsanmi and Iyagba (2003) also reported that the recent downturn in the Nigerian economy since 1985 had created recession in the construction industry. This in turn makes clients and consultants to think of cheaper ways of achieving construction in terms of cost, time and quality, thus loading to modifications of existing project execution systems in favour of labour-only contracting.

A project is said to achieve a good construction performance if it is completed at a reasonable cost, to a reasonable quality and within a reasonable measure of safety (Loh and Ofori, 2000). Most clients seek value for money and towards this, Seeley (1976) suggested that client's value is a function of time, cost and quality. On this premise, Wachira (2000) noted that one of the things lacking in the construction industries of most of the developing countries is performance measurement. Moreover, in spite of the shift in the attitude of main contractors to subcontract procurement and the importance of these subcontractors, little is publicized



about their performance globally. Though the work of Loh and Ofori (2000) concentrated on the performance of labour subcontractors, the study was based on the effect of registration in Singapore. Smallwood (2000) studied the clients' perception of contractors' performance in South Africa while Walker (1994) investigation concentrated on construction time performance alone. Important questions are: what are the main contractors' procedures for the selection of subcontractors?; what are the methods of communication by main contractors to subcontractors on a project?; is there any relationship between registration and the performance of construction subcontractors in Nigeria?.

## EVOLUTION, REGISTRATION AND TYPES OF SUBCONTRACTING

The advent of subcontracting in the building trades dated back to the eighteenth century when there was emergence of Master Builders in London. Loh and Ofori (2000) provided an account of the historical development of this system which started when the Chinese immigrants arrived in Singapore during the mid 19th century. They acquired skills from master tradesmen and organized themselves into lose groups of "friends", each led by multi skilled leader. Fagbenle (2006) reported that on the Nigerian scene, the intervention of the British rule introduced the extensive use of wages and salaries for the participants of the building process, migration from rural to urban areas and the resultant dispersal of close family units formerly used for construction purposes. According to the author, a new form of housing construction had to emerge and in it, the client negotiated directly with the contractors. The contractor in turn provides the materials and entered into direct contractual relationship with the subcontractors for the execution of the portions of the works.

Registration has been regarded as a veritable tool for the regulation of activities of the various stakeholders within the control of the policy maker and this has often been maximally utilized by governments of nations to act as check and balance for their various operations/ activities (Fagbenle, 2006). According to Lee (1997), if the construction industry is to obtain higher levels of quality and productivity, the first step must be to identify and formally register their employers. Loh and Ofori (2000) gave the benefits of registration of subcontractors with the relevant regulatory bodies as facilitating the recognition and identification of subcontractors as well as enabling the subcontractors' workers to be trained and their welfare enhanced. He then stressed further that SLOTS(Singapore's List of Trade Subcontractors) registration has significantly improved the performance of subcontractors in Singapore. On the contrary, most subcontractors dislike being traced for tax and foreign workers levy because much administrative work and costs are involved once they are identified (Lee, 1997). Also, Lim (1996) found a general belief among the subcontractors that the use of registration of firms would involve higher rates, thereby leading to an increase in construction costs. Reiterating further, the key problem is that subcontractors who are not registered are currently still able to obtain jobs.

In Nigeria, subcontractors can be divided into three categories. They are:

1) subcontractors who supply labour only
2) subcontractors who supply materials only
3) subcontractors who supply both labour and materials.

Within these categories, the subcontractors could be further divided into 'Domestic' and 'Nominated', according to their ways of engagement.

Against these backdrops, the study therefore seeks to provide information on the effect of registration on the performance of subcontractors in the Nigerian construction industry.

## DATA SOURCES AND METHODOLOGY

The population of the main contracting firms and subcontractors used for this analysis are those listed in the register of the Federal Ministry of Housing and Urban Development, otherwise known as the Federal Registration Board of Nigeria. Presently, the Federal Registration Board has four categories of registrations which are based on their contract values. They are categories A, B, C and D, in that ascending order. Based on this and also on the preliminary study of on-going projects in the study area, construction firms registered under categories C and D were classified as main contracting firms while the subcontracting firms are firms registered under categories A and B.

With a focus on three commercial nerve centers of the country (Lagos, Abuja and Port Harcourt), 90 main contractors were randomly selected from the study population of 880 in the aforementioned register. 96 subcontractors, 90 clients and 92 consultants were also randomly selected from the population. 88, 75, 56 and 42 questionnaires were respectively filled and returned by the respondents. The statistically required sample size in this regard was calculated from the following formula (Sediary, 1994).

$n = n'/(1+(n'/N))$

where

n= sample size

n'= s/v

N = total estimated population

v = standard error of the sampling population. Total error= 0.1 at a confidence level of 95%

$s = (p) \times (1- p) = (0.5) \times (0.5) = 0.25$

where p is the proportion of the population element that belongs to a defined class.



Four sets of questionnaires (A, B, C and D) were designed to collect information on the issues raised in this regard. Questionnaires A was designed solely for the main contractors in the building industry while questionnaires B, C and D were designed for subcontractors, clients and consultants respectively. Descriptive and inferential statistical techniques were used for the analysis in this study. They include percentages and the Chi-square probabilities. The study population was chosen because the three cities represent the most commercial nerve centres in Nigeria. Also, over 70% of the construction firms have their head offices located in these three cities while about 80% of the volume of construction transactions in Nigeria is conducted in these areas (Adeyemi, 2004 and Fagbenle, 2006

## RESULTS AND DISCUSSIONS

Selection criteria have been described as a very important attribute in the study of construction performance of subcontractors and this depends on the policy of the individual countries (Hinze and Tracey, 1994 and Fagbenle, 2006). In achieving this, main contractors were asked to state their firms' procedure(s) for selecting subcontractors. The survey (Table 1) showed that the most frequently used procedure for selecting subcontractors on site is competitive bidding with discretion in selection (60.0%). This is followed by negotiated selection and price (21.3%) as well as competitive bidding (13.3%). A small percentage (2.7%) used the price quoted by subcontractors. Also, fifty two of the respondents (69.3%) submitted that contracts are normally awarded based on best price from proven subcontractors. 16.0% of the contractors affirmed that preference is normally given to lowest negotiated price from subcontractors when adopting negotiated selection. While it is obvious that successful subcontractors have to be notified, the method of communication still needs to be known. The respondent main contractors were therefore asked to indicate the type(s) of communication they adopt in this perspective. The result on Table 2 showed that majority of the main contractors (49.4%) give notification to these specialty contractors while twenty five (33.3%) of the respondents affirmed that it is left for the subcontractors to monitor the progress of the bidding and the final selection.

The main contractors/ consultants were asked to rate the performance of the Federal Board registered and non-registered subcontractors as either 'poor', 'satisfactory', 'good', 'very good' and 'outstanding'. The respondents compared the performance of the subcontractors with some criteria that are central to their projects. These include the time, cost, quality, safety (frequency of accidents), technical and overall performance. In achieving this aim, a hypothesis was performed and the null hypothesis (Ho) is that there is no relationship between and the performance of subcontractors and registration with the Federal Registration Board. The alternative hypothesis (Hi) is that there is an association between the performance of subcontractors and the registration with the Federal Registration Board.

The survey data on Table 3 indicated that the Chi-square probabilities and values were "time", 0.00312, 31.224, "cost" 0.12435, 4.094, "quality" 0.03076, 5.842, "technical performance" 0.00255, 6.995 and "overall performance" 0.05864, 2.073. Taking "overall performance" as the decisive criterion, since the critical value was 7.779 when compared with the calculated value (2.073), the Ho was accepted at 0.05 level of significance. That is, there is no significant effect between the overall performance of subcontractors and the registration with the Federal Registration Board of Nigeria. This result however contradicts the findings of Loh and Ofori (2000) that SLOTS registration has tremendously improved the performance of subcontractors in Singapore.

## CONCLUSION

The study has revealed that various procedures abound in selecting subcontractors for construction projects and they vary from site to site. The most frequently used procedure is competitive bidding with discretion in selection. This procedural arrangement is normally adopted in order to forestall the award of contracts to incompetent subcontractors as a result of their low bids. The results indicated also that registration with the Federal Registration Board bears no relevance with the subcontractors' performance on sites and it is not normally used as a precondition for their engagement. This is however contrary to what is operating in other countries like the United Kingdom and Singapore where utmost importance is attached to the registration with the relevant authorities as a condition for the engagement of subcontractors.

For the practice of subcontract procurement to have more meaningful impacts in Nigeria and other developing countries, sincere attention should be shifted towards registration of subcontractors with the relevant regulatory bodies and competitive bidding should be encouraged among the subcontractors. Also, the current approach of the fact that "any size fits all" should be discarded. Instead, instead, subcontractors whose location addresses are genuine and can easily be traced should be engaged. Moreover, successful subcontractors should be promptly contacted rather than allowing them to be monitoring the selection process/progress of work. Also, the issue of cross-fertilization of ideas among various countries should be well encouraged.



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**Table 1: Main Contractors' Procedures for Selecting Subcontractors**

| | Main Procedures | | | Sub Procedures | | |
|---|---|---|---|---|---|---|
| | Procedural Type | Response | % | Procedural Type | Response | % |
| 1 | Competitive Bidding | 10 | 13.3 | Lowest Bidder | 2 | 2.7 |
| 2 | Negotiated Selection and Price | 16 | 21.3 | Lowest Negotiated Price | 12 | 16.0 |
| 3 | Negotiated Fixed Unit Price | 2 | 2.7 | Best Price from a Proven Subcontractor | 52 | 69.3 |
| 4 | Competitive Bidding with Discretion in Selection | 45 | 60.0 | Sharing Work to Maintain Business | 9 | 12.0 |
| 5 | Accept Price Quoted by Subcontractors | 2 | 2.7 | Relationship with Subcontractors | 0 | 0.0 |
| 6 | Others | 0 | 0.0 | Others | 0 | 0.00 |

Source: Field Analysis (2008)

**Table 2: Communication Methods by Main Contractors to Subcontractors on a Project**

| S/N | Communication Method | Frequency | Percentage |
|---|---|---|---|
| 1 | Contractor gives notification | 37 | 49.4% |
| 2 | Subcontractors monitor progress | 25 | 33.3 |
| 3 | No indication | 13 | 17.3% |
| 4 | Total | 75 | 100.0% |

Source: Field Analysis (2008)

**Table 3: Contingency Table On The Relationship Between Registration and Performance of Construction Subcontractors**

| | $F_a$ | | | $F_e$ | | | Computed $X^2$ | | |
|---|---|---|---|---|---|---|---|---|---|
| Registration | Yes | No | Total | Yes | No | Total | | | No |
| Performance Criteria | | | | | | | | | |
| Time | | | | | | | | | |
| Poor 1 | 1 | 1 | 2 | 1 | 1 | 2 | | 0 | 0 |
| Satisfactory2 | 12 | 32 | 44 | 22 | 22 | 44 | | 4.546 | 4.546 |
| Good 3 | 29 | 37 | 66 | 33 | 33 | 66 | | 0.485 | 0.485 |
| Very Good 4 | 31 | 4 | 35 | 17.5 | 17.5 | 35 | | 10.414 | 10.414 |
| Outstanding5 | 2 | 1 | 3 | 1.5 | 1.5 | 3 | | 0.167 | 0.167 |
| | 75 | 75 | 150 | 75 | 75 | 150 | 0.00312 | $\Sigma\{(F_a-F_e)^2/F_e\}$ | 31.224 |
| Cost | | | | | | | | | |
| Poor 1 | 1 | 2 | 3 | 1.5 | 1.5 | 3 | | 0.167 | 0.167 |
| Satisfactory2 | 21 | 19 | 40 | 20 | 20 | 40 | | 0.050 | 0.050 |
| Good 3 | 33 | 42 | 75 | 37.5 | 37.5 | 75 | | 0.540 | 0.540 |
| Very Good 4 | 19 | 12 | 31 | 15.5 | 15.5 | 31 | | 0.790 | 0.790 |
| Outstanding5 | 1 | 0 | 1 | 0.5 | 0.5 | 1 | | 0.500 | 0.500 |
| | 75 | 75 | 150 | 75 | 75 | 150 | 0.12435 | $\Sigma\{(F_a-F_e)^2/F_e\}$ | 4.094 |
| Quality | | | | | | | | | |
| Poor 1 | 2 | 3 | 5 | 2.5 | 2.5 | 5 | | 0.100 | 0.100 |
| Satisfactory2 | 20 | 27 | 47 | 23.5 | 23.5 | 47 | | 0.521 | 0.521 |
| Good 3 | 36 | 38 | 74 | 37 | 37 | 74 | | 0.027 | 0,027 |
| Very Good 4 | 16 | 6 | 22 | 11 | 11 | 22 | | 2.273 | 2.273 |
| Outstanding5 | 1 | 1 | 2 | 1 | 1 | 2 | | 0.000 | 0.000 |
| | 75 | 75 | 150 | 75 | 75 | 150 | 0.03076 | $\Sigma\{(F_a-F_e)^2/F_e\}$ | 5.842 |



| Safety | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Poor 1 | 2 | 3 | 5 | 2.5 | 2.5 | 5 | | 0.100 | 0.100 |
| Satisfactory2 | 21 | 26 | 47 | 23.5 | 23.5 | 47 | | 0.266 | 0.266 |
| Good 3 | 29 | 32 | 61 | 30.5 | 30.5 | 61 | | 0.074 | 0.074 |
| Very Good 4 | 22 | 14 | 36 | 18 | 18 | 36 | | 0.889 | 0.889 |
| Outstanding5 | 1 | 0 | 1 | 0.5 | 0.5 | 1 | | 0.500 | 0.500 |
| | 75 | 75 | 150 | 75 | 75 | 150 | 0.15301 | $\Sigma\{(F_a-F_e)^2/F_e\}$ | 3.658 |
| Technical Performance | | | | | | | | | |
| Poor 1 | 1 | 1 | 2 | 1 | 1 | 2 | | 0.000 | 0.000 |
| Satisfactory2 | 17 | 24 | 41 | 20.5 | 20.5 | 41 | | 0.598 | 0.598 |
| Good 3 | 31 | 37 | 68 | 34 | 34 | 68 | | 0.265 | 0.265 |
| Very Good 4 | 24 | 13 | 37 | 18.5 | 18.5 | 37 | | 1.635 | 1.635 |
| Outstanding5 | 2 | 0 | 2 | 1 | 1 | 2 | | 1.000 | 1.000 |
| | 75 | 75 | 150 | 75 | 75 | 150 | 0.00255 | $\Sigma\{(F_a-F_e)^2/F_e\}$ | 6.995 |
| Overall Performance | | | | | | | | | |
| Poor 1 | 1 | 1 | 2 | 1 | 1 | 2 | | 0.000 | 0.000 |
| Satisfactory2 | 28 | 31 | 59 | 29.5 | 29.5 | 59 | | 0.076 | 0.076 |
| Good 3 | 25 | 38 | 63 | 31.5 | 31.5 | 63 | | 1.341 | 1.341 |
| Very Good 4 | 19 | 4 | 23 | 11.5 | 11.5 | 23 | | 0.489 | 0.489 |
| Outstanding5 | 2 | 1 | 3 | 1.5 | 1.5 | 3 | | 0.167 | 0.167 |
| | 75 | 75 | 150 | 75 | 75 | 150 | 0.05864 | $\Sigma\{(F_a-F_e)^2/F_e\}$ | 2.073 |

Source: Field Analysis (2008)